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General Electric Company
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P.O. Box 8, Bldg. K-1 - Salamone
Schenectady, NY 12301

EXAMINER

EPPERSON, JON D

ART UNIT	PAPER NUMBER
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1627

DATE MAILED: 07/31/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary*File Copy*

Application No.

09/729,118

Applicant(s)

CAWSE, JAMES NORMAN

Examiner

Jon D Epperson

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 17-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

Status of the Application

1. Receipt is acknowledged of a response to a restriction requirement, which was dated on June 19, 2002 (Paper No. 5).

Status of the Claims

2. Claims 1-36 is/are pending in the present application.
3. Applicant's response to the Restriction and/or Election of Species requirements in Paper No. 5 is acknowledged and claims 17-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim (see below i.e., Response to Restriction and Election of Species without Traverse).
4. Please note: Applicant's elected species (polycarbonate and monofilm) were found in the art, see rejections below. Applicant is reminded of MPEP § 803.02 with respect to species elections:

On the other hand, should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. If prior art is then found that anticipates or renders obvious the Markush-type claim with respect to a nonelected species, the Markush-type claim shall be rejected and claims to the nonelected species held withdrawn from further consideration. The prior art search, however, will not be extended unnecessarily to cover all nonelected species. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the action

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made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

5. Therefore, claims 1-16 are examined on the merits in this action. Please note the claims are examined to the extent of the elected species as noted above.

Response to Restriction and Election of Species without Traverse

6. Applicant's election of Group I (claims 1-16) in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

7. As a result, claims 17-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

8. Therefore, claims 1-16 are examined on the merits in this action

Information Disclosure Statement

9. The references listed on applicant's PTO-1449 form have been considered by the examiner. A copy of the form is attached to this Office Action.

Objections to the Claims

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10. Claim(s) 1 is/are objected to because of the following informalities:

- A. Claim 15 contain(s) a grammatical error. Claim 15 reads “wherein the at least one cell is a cell is formed” and should read “wherein at least one cell is a cell [that] is formed.” Correction is requested.
- B. Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form or rewrite the claim(s) in independent form. Claim 14 depends from claim 1. Claim 1 recites in part: “a reactor plate comprising a substrate with an array of reaction cells.” Claim 14 recites the limitation “the reactor plate of claim 1 wherein at least one cell is a cell with two opposing walls” Claim 14, therefore, does not further limit claim 1 because all the cells would have two opposing walls. If the cell didn’t have two opposing walls it wouldn’t be a cell.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 and 13-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an apparatus comprising a polycarbonate substrate and a

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permeable polycarbonate film covering used for the catalytic production of aromatic carbonates, does not reasonably provide enablement for *any* apparatus comprising *any* substrate and *any* permeable film covering used for *any* chemical reaction. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

It is clear from applicant's specification how one might produce the claimed invention only when the solid support and permeable film covering are composed of polycarbonate; however, there is insufficient guidance as to how to carry out the production of any apparatus comprising *any* substrate and *any* permeable film covering. There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) The breadth of the claims and the nature of the invention:

For claims 1-4, 10-11, 13-14 and 16, applicant has disclosed an apparatus that is very broad in scope. The "substrate" and "permeable film cover" can be composed of *any* material (e.g., polyester, glass, diamond), which reads on a limitless number of

possibilities. Furthermore, the chemical and/or physical properties of the substrate and permeable film cover including the thickness have not been specified, which reads on a limitless number of physical possibilities.

For **claims 5-7**, the thickness of the permeable film was specified, but the composition of the permeable film was not (e.g., polyester, polycarbonate, etc.) and, as a result, these claims are also very broad in scope because these claims read on all materials.

For **claims 8-9 and 15**, the composition of the permeable film was specified, but the thickness of the permeable film was not, and, as a result, these claims are also very broad in scope because these claims read on a limitless number of physical and chemical variations.

(3 and 5) The state of the prior art and the level of predictability in the art:

Only a few examples exist for “reactor plates” that comprise a “substrate” with an array of reaction cells” and a “permeable film covering” describing only a few different types of substrates with a few different types of permeable film coverings (see below, paragraphs 14 and 15 e.g., 102a and 102e rejections).

Furthermore, one of ordinary skill in the art could not predict which films (e.g., polyester, polycarbonate, etc) would be “permeable” to *all* of the known gases or which films would exhibit the desired selectivity that would prevent the transport of *any* reaction product out of the cell. This information is not currently available.

(4) The level of one of ordinary skill:

The level of skill would be high, most likely at the Ph.D. level. Such persons of ordinary skill in this art, given its unpredictability, would have to engage in undue (non-routine) experimentation to carry out the invention as claimed.

(6-7) The amount of direction provided by the inventor and the existence of working examples:

The instant specification does not give enough guidance as to how one of ordinary skill in the art could produce the claimed invention using **any** substrate with **any** permeable film covering to produce and test **any** product. Applicant has not provided a generic strategy for determining the chemical and physical composition of the permeable film covering that will allow **any** gas to permeate while preventing the transport of **any** product. Furthermore, applicant has provided only one example using a polycarbonate substrate and polycarbonate film.

(8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure:

The instant claims are drawn to an apparatus described as a “reactor plate” with a comprising a “substrate” and a “permeable film covering.” However, the instant specification does not provide to one skilled in the art a reasonable amount of guidance with respect to the direction in which the experimentation should proceed in making and using the full scope of the claimed method. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention *as broadly as it is claimed*. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 & n.23 (Fed. Cir. 1991). Therefore, it is deemed that

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further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure, one of ordinary skill would not have a reasonable expectation of success and the practice of the full scope of the invention would require undue experimentation.

12. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an apparatus comprising a single substrate composed of one type of material (e.g., polycarbonate), does not reasonably provide enablement for a single substrate composed of more than one type of material (e.g., once cell is composed of polycarbonate, another cell is composed of polyester). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims (see as an example claim 15 stating, "wherein at least one cell is a cell is formed from a polycarbonate substrate" implying that each cell may be made of a different material).

It is clear from applicant's specification how one might produce the claimed invention only when the solid support and permeable film covering are composed of polycarbonate; however, there is insufficient guidance as to how to carry out the production of any apparatus comprising *any* substrate and *any* permeable film covering. There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

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- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) The breadth of the claims and the nature of the invention:

For **claims 1-16**, applicant has disclosed an apparatus that is very broad in scope.

The “substrate” as disclosed by the applicant can be composed of more than one material e.g., cell 1 is polycarbonate, cell 2 is polyester, cell 3 is polypropylene.

(3 and 5) The state of the prior art and the level of predictability in the art:

There are no examples of a single microtiter plate wherein each well of the plate is made from a different material. Furthermore, the examiner is not aware of any other “substrate” disclosing this amalgamation of materials.

Since there is no examples the level of predictability in the art would be low or absent.

(4) The level of one of ordinary skill:

The level of skill would be high, most likely at the Ph.D. level. Such persons of ordinary skill in this art, given its unpredictability, would have to engage in undue (non-routine) experimentation to carry out the invention as claimed.

(6-7) The amount of direction provided by the inventor and the existence of working examples:

The instant specification does not give enough guidance as to how one of ordinary skill in the art could produce the claimed invention using a substrate with multiple cells wherein each cell is composed of **any** substance. Applicant has not provided a generic strategy for making such a substrate. Furthermore, applicant has not provided any examples; applicant's only example does not teach the idea that a variety of materials may be used to make each cell for a particular substrate. Applicant's example shows that all of the cells are made of polycarbonate.

(8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure:

The instant claims are drawn to an apparatus described as a "reactor plate" with a comprising a "substrate" and a "permeable film covering" wherein the "substrate with an array of reaction cells" can possess "reaction cell" made from different materials for the single substrate (e.g., well #1 is polycarbonate, well #2 is polyester, etc.). However, the instant specification does not provide to one skilled in the art a reasonable amount of guidance with respect to the direction in which the experimentation should proceed in making and using the full scope of the claimed method. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention *as broadly as it is claimed*. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 & n.23 (Fed. Cir. 1991). Therefore, it is deemed that further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure, one of ordinary skill would not have a reasonable expectation of

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success and the practice of the full scope of the invention would require undue experimentation.

Claims Rejections - 35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-16 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- A. The term “reactor plate” in claim 1 is not defined by the claim or the specification and is an indefinite and/or unclear term. For example, how does the term “reactor” in the phrase “reactor plate” limit the scope of the invention? Does the plate itself “react” as a catalyst? Does the plate itself change physically or chemically during the course of the reaction? Furthermore, how does the word “plate” limit the scope of the invention? For example, does the word “plate” encompass only a “flat metallic” surface or could it also include a “concave glass” surface? Consequently, it is not possible to determine the metes and bounds of the invention as claimed. Therefore, claim 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- B. The term “substrate” in claim 1 is not defined by the claim or the specification and is indefinite and/or unclear. For example, a “substrate” could refer to any

compound that participates in an enzymatic reaction, a polymeric resin such as a bead or other type of solid-support, or a soluble dendrimer used in cascade synthesis. Consequently, it is not possible to determine the metes and bounds of the invention as claimed. Therefore, claim 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

- C. The term “reaction cells” in claim 1 is not defined by the claim or the specification and is indefinite and/or unclear. For example, does the term “reaction cells” refer to the wells of a microtiter plate or to living biological cells? Consequently, it is not possible to determine the metes and bounds of the invention as claimed. Therefore, claim 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- D. The phrase “substrate with an array of reaction cells” in claim 1 is indefinite and/or unclear. In this context, does the word “with” mean that an array of reaction cells “accompanies” the substrate (i.e., the substrate and the array of reaction cells are two separate items) or does the word “with” show that the “array of reaction cells” is qualifying property that further limits the word substrate (i.e., the substrate and the array of reaction cells are the same item)? Consequently, it is not possible to determine the metes and bounds of the invention as claimed. Therefore, claim 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- E. Claim 1 recites the limitation “the cell” in line 5 (claim 1, line 4 refers to “the one cell”). There is insufficient antecedent basis for this limitation in the claim. The

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examiner recommends changing the phrase to "the one cell." Therefore, claim 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

- F. Claims 2-12 recite the limitation "the film" (whereas claim 1 refers to "the permeable film"). There is insufficient antecedent basis for this limitation in the claim. The examiner recommends changing the phrase to "the permeable film." Therefore, claims 2-12 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- G. The terms "about", "preferably about" and "desirably about" in claims 2-7 are relative terms which render the claims indefinite. The terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not possible to ascertain how much more or less cc(STP)-mm/cm²-sec-cmHg constitutes "about 5×10^{-10} " or "preferably about 2×10^{-8} " or "desirably about .01." Therefore, claims 2-7 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- H. The term "shallow cell" in claim 13 is a relative term, which renders the claims indefinite. The term "shallow" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, claims 13 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

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- I. The term “permeable film” in claim 1 is a relative term, which renders the claims indefinite. The term “permeable” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, claims 1 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.
- J. The phrase “wherein the at least one cell is a cell is formed from a polycarbonate substrate” is indefinite and/or unclear. Does the applicant mean that the cells are made of the same polycarbonate material as the permeable film? Does the applicant mean that a “substrate with an array of reaction cells” can be composed of more than one material e.g., one cell is made of polycarbonate while another cell is made of say polyester? Consequently, it is not possible to determine the metes and bounds of the invention as claimed. Therefore, claim 15 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

Claims Rejections - 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

14. Claims 1-8, 12-14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Valus et al (US #5853586) (Filing Date is **May 12, 1997**; Date of Patent is **Dec. 29, 1998**).

For *claims 1 and 11*, Valus et al discloses a plate with an array of reaction cells (see Valus et al, Figure 1 showing a plate i.e., element 10 with an array of reaction cells labeled A-H \times 1-12), which reads on the reactor plate in claim 1 wherein a “reactor plate comprising ... an array of reaction cells” is claimed. Furthermore, Valus et al discloses materials inside the reaction wells (see Valus, et al, compare figures 2 and 3 showing that the cells can be filled with materials), which also reads on claim 1 wherein a “substrate” is added to the wells. In addition, Valus et al also discloses a “sealing member” (see Valus et al, figure 3, element 20) that can be made of “plasticized or unplasticized polymers such as ... polyethylene” (see Valus et al, column 3, lines 47-53), which also reads on claim 1 wherein “a permeable film cover[s] at least on of the cells.” Furthermore, Valus et al never states that the array of cells is hermetically sealed by the “sealing member” implying that some gas can penetrate through the “sealing member” which reads on the “permeable” limitation for the film covering in claim 1.

The limitations of “transport[ing] a reactant gas into one cell” and “preventing transport of a reaction product out of the cell” in claim 1 are also anticipated because these limitations are inherent properties of the “sealing member” disclosed by Valus et al or, in the alternative, would be construed as functional language describing a use of the

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apparatus, which wouldn't further limit the scope of the claimed invention. See MPEP § 2114:

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

"[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original)

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

However, in the alternative that the functional language in claim 1 (e.g. last two lines of claim 1) is to be considered as additional limitations for claim 1, the claimed invention would still be anticipated by Valus et al. In Valus et al, the "sealing member" prevents the liquid in one reservoir from escaping and cross-contaminating the liquids in the other reservoirs (see Valus et al, column 1, lines 36-40 and column 4, lines 25-26), which reads on the limitations of claims 1 and 11 of "preventing transport of a reaction product out of the cell." Furthermore, Valus et al never states that the array of cells is hermetically sealed by the "sealing member", which reads on the "selectively permit transport of a reactant gas into the one cell" or "permeable film" limitations of claims 1 and 11.

For *claims 2-4*, Valus et al discloses a "sealing member" that can be made of "polyethylene" and that can be "0.01 inches" thick (see Valus et al, column 3, line 52,

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and column 4, line 18), which reads on claims 2-4 since applicant has claimed in the specification that “[t]he permeability of a film will vary with thickness” and discloses examples of films with the desired permeability that are “about” the same thickness as the “sealing member” claimed by Valus et al (see specification, page 4, bottom two paragraphs). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For *claims 5-7*, Valus et al discloses a “sealing member” that is “0.01 inches” thick, which reads on claims 5-7 wherein the film is “about .0002 to about .05 mm thick” or “about .005 to about .04 mm thick” or “about .005 to about .04 mm thick” (see Valus et al, column 4, line 18).

For *claim 8*, Valus et al discloses that “[a]ny number of known flexible materials may be used to create the flexible seal [including] ... polyethylene” (see Valus et al, column 3, third paragraph especially lines 33-34 and 52), which reads on claim 8 wherein “the film is a ... polyethylene.”

For *claim 10*, Valus et al discloses that the use of a “thin, pliable film” for sealing the cells of a microtiter plate (see Valus et al, column 1, lines 8-10), which reads on claim 10 wherein “the film is a monofilm.”

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For **claim 12**, the limitations “wherein the film selectively admits transport of oxygen and carbon monoxide and prohibits transport of a diaryl carbonate” in claim 12 should not be considered as limitations for this apparatus because these limitations represent functional language describing a use of the apparatus. See MPEP § 2114:

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original)

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

However, in the alternative that the functional language in claim 12 is to be considered as additional limitations for claim 12, the claimed invention would still be anticipated by *Valus et al.* *Valus et al.* discloses a “sealing member” that can be made of “polyethylene” and that can be “0.01 inches” thick (see *Valus et al.*, column 3, line 52, and column 4, line 18), which reads on claim 12 since applicant has claimed in the specification that “[t]he permeability of a film will vary with thickness” and discloses examples of films with the desired permeability that are “about” the same thickness as the “sealing member” claimed by *Valus et al.* (see specification, page 4, bottom two paragraphs). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they

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are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For *claim 13*, Valus et al discloses wells that are shallow (see Valus et al, Figure 2, element 12), which reads on claim 13.

For *claim 14*, Valus et al discloses wells with “two opposing walls comprising a permeable film” (see Valus et al, figure 3, elements 12 and 20), which reads on claim 14.

For *claim 16*, Valus et al discloses wells with concave bottoms and a permeable film cover (see Valus et al, figure 3, elements 12 and 20), which reads on claim 16.

15. Claims 1-14 is/are rejected under 35 U.S.C. 102(e) as being anticipated by Hirahara (US # 6,045,208) (Date of Patent: **April 4, 2000**; Filed: **July 11, 1995**).

For *claims 1 and 11*, Hirahara et al discloses a plate (i.e., an electroforming stamper) with an array of reactions cells (see Hirahara et al, Figure 29a, element 26a showing a plate with an array of cells), which reads on the reactor plate in claim 1 wherein a “reactor plate comprising ... an array of reaction cells” is claimed.

Furthermore, Hirahara et al discloses that material can be placed inside these wells (see Hirahara, et al, Figure 29b, compare element 29a to 29b, which shows wells that may be filled with materials), which also reads on claim 1 wherein a “substrate” is added to the wells. In addition, Hirahara et al also discloses a “polycarbonate resin film 29a with a thickness of about 20 μm ” (see Hirahara et al, column 38, lines 45-45, and figure 29a,

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element 29a), which also reads on claim 1 wherein “a permeable film cover[s] at least on of the cells.” Furthermore, Hirahara et al never states that the array is hermetically sealed by the “polycarbonate resin film” implying that some gas can penetrate through the “polycarbonate resin film” which reads on the “permeable” limitation for the film covering in claim 1.

The limitations of “transport[ing] a reactant gas into one cell” and “preventing transport of a reaction product out of the cell” in claim 1 should not be considered as limitations for this apparatus because these limitations represent functional language describing a use of the apparatus. See MPEP § 2114:

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“[A]pparatus claims cover what a device is, not what a device does.” Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original)

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

For *claims 2-4*, Hirahara et al discloses a “polycarbonate resin film” that can be made of “polycarbonate” and that is about “20 μm ” thick (see Hirahara et al, column 38, lines 45-46), which reads on claims 2-4 since applicant has claimed in the specification that “[t]he permeability of a film will vary with thickness” and discloses examples of films that are “about” the same thickness as the “sealing member” claimed by Hirahara et

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al and, as a result, the “polycarbonate resin film” disclosed by Hirahara et al must have the same desirable diffusion coefficients disclosed by applicant (see specification, page 4, bottom two paragraphs). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For *claims 5-7*, Hirahara et al discloses a “polycarbonate resin film” that is “20 μm ” thick, which reads on claims 5-7 wherein the film is “about .0002 to about .05 mm thick” or “about .005 to about .04 mm thick” or “about .005 to about .04 mm thick” (see Hirahara et al, column 4, line 18).

For *claim 8*, Hirahara et al discloses a “polycarbonate resin film” (see Hirahara et al, column 38, line 45), which reads on claim 8 wherein “the film is a polycarbonate.”

For *claim 9*, Hirahara et al discloses a “polycarbonate resin film” (see Hirahara et al, column 38, line 45), which reads on claim 9 wherein “the film is a polycarbonate.”

For *claim 10*, Valus et al discloses that the use of a “polycarbonate resin film” for sealing the cells of a microtiter plate (see Valus et al, column 1, lines 8-10), which reads on claim 10 wherein “the film is a monofilm.”

For *claim 12*, the limitations “wherein the film selectively admits transport of oxygen and carbon monoxide and prohibits transport of a diaryl carbonate” in claim 12

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should not be considered as limitations for this apparatus because these limitations represent functional language describing a use of the apparatus. See MPEP § 2114:

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original)

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

However, in the alternative that the functional language in claim 12, the claimed invention would still be anticipated by Hirahara et al. Hirahara et al discloses a “polycarbonate resin film” that can be “20 μm ” thick (see Hirahara et al, column 38, line 46), which reads on claims 12 since applicant has claimed in the specification that “[t]he permeability of a film will vary with thickness” and discloses examples of films with the desired permeability that are “about” the same thickness as the “polycarbonate resin film” claimed by Hirahara et al (see specification, page 4, bottom two paragraphs). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the

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difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For *claim 13*, Hirahara et al discloses wells that are shallow (see Hirahara et al, Figure 29a, element 26a), which reads on claim 13.

For *claim 14*, Hirahara et al discloses wells with “two opposing walls comprising a permeable film” (see Hirahara et al, figure 29a, element 26a), which reads on claim 14.

Status of Claims/Conclusion

16. No claims are allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (703) 308-2423. The examiner can normally be reached Monday-Friday from 8:30 to 4:30.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (703) 308-4537. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

19. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2439.

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Jon D. Epperson, Ph.D.

July 26, 2002

BENNETT CELSA
PRIMARY EXAMINER


